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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,469	02/23/2007	Enrico Rizzi	9526-70 (180749)	3070
30448	7590	03/12/2010	EXAMINER	
AKERMAN SENTERFITT			ROSATI, BRANDON MICHAEL	
P.O. BOX 3188			ART UNIT	PAPER NUMBER
WEST PALM BEACH, FL 33402-3188			3744	
NOTIFICATION DATE		DELIVERY MODE		
03/12/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

[ip@akerman.com](mailto:ip@akerman.com)

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,469	<b>Applicant(s)</b> RIZZI ET AL.
	<b>Examiner</b> BRANDON M. ROSATI	<b>Art Unit</b> 3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 21 December 2009.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-10 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. This action is in response to the amendment filed on 12/21/2009. Currently, claims 1-10 are pending.

***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 2, 4, 6, 7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Dang Vu et al. (U.S. Patent No. 4,943,669).

Regarding claims 1 and 6, Dang Vu et al. disclose in Figures 1 and 2, a chemical reactor comprising a plurality of boxed plate heat exchangers (see four rectangular boxes within (1)), the heat exchangers being formed of plates, having an inner chamber with a spacer element (7b) placed inside the chamber (Column 6, lines 38-57). It is noted that the phrase “prevent squashing or inward buckling of the pair of juxtaposed metallic plates from pressure exerted on the plates in a direction substantially normal to the predetermined direction to be crossed by the heat exchange operating fluid” is a statement of intended use and the structure of the device is capable of performing the function.

Regarding claims 2 and 7, Dang Vu et al. disclose in Figures 1 and 2, the space element having a concertina profile with parallel folds (see Figure 2b).

Regarding claims 4 and 9, Dang Vu et al. disclose in Figures 1 and 2, the space elements (7b) being welded to the plates (i.e. duct) (see Column 6, lines 52-55).

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 3, 4, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dang Vu et al. (U.S. Patent No. 4,943,669) in view of Hesselgreaves (U.S. Patent No. 5,193,611).

Regarding claims 3 and 8, Dang Vu et al. disclose all the claimed limitations except the reference is silent as to the space elements being structurally independent from the heat exchanger. However, Hesselgreaves discloses in Figure 1, a heat exchanger with primary plates forming an inner chamber with a spacer element (i.e. secondary plate (12)) being structurally independent from the heat exchanger (Column 3, lines 51-68). Hence, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to modify the teachings of Dang Vu et al. with the independent spacer element of Hesselgreaves because this would allow for the space element to be easily replaced or serviced if failure occurred within the inner chamber.

Regarding claims 4 and 9, Hesselgreaves discloses welding (i.e. diffusion bonding) the spacer elements (Column 3, lines 65-68).

6. Claims 5 and 10 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Dang Vu et al. (U.S. Patent No. 4,943,669) in view of Filippi et al. (U.S. Pub. No. 2002/0088613 A1).

Regarding claims 5 and 10, Dang Vu et al. disclose all the claimed limitations including utilizing welding, but not welding points arranged in a quincunx pattern. However, Filippi et al.

discloses the general teaching of utilizing welding with the weld spots having a quincunx pattern (Paragraph [0036]). Hence, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to modify the teachings of Dang Vu et al. with the quincunx welding of Filippi et al. because this type of welding is well known in the art and would allow for the welding spots to be regularly distributed over the two objects being welded.

*Response to Arguments*

7. Applicant's arguments filed 12/21/2009 have been fully considered but they are not persuasive.
8. In response to applicant's argument (pages 6 and 7) that Dang Vu does not teach spacer elements which prevent squashing or inward buckling of the pair of juxtaposed metallic plates from pressure exerted on the plates in a direction substantially normal to the predetermined direction to be crossed by the heat exchange operating fluid, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the instant case, the space element (7b) is deemed structurally capable of performing the functional language as set forth in the claim. Therefore, applicant's argument is unpersuasive and the rejection is maintained.

*Conclusion*

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON M. ROSATI whose telephone number is (571)270-3536. The examiner can normally be reached on Monday-Friday 8:00am- 4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler or Frantz Jules can be reached on (571) 272-4834 or (571) 272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BMR 3/5/2010	/Cheryl J. Tyler/ Supervisory Patent Examiner, Art Unit 3744
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